NIDA Big Data
Strategic Planning Workgroup

April 10, 2015

Co-Chairs:

Roger Little, Ph.D. (NIDA)

Massoud Vahabzadeh, Ph.D. (NIDA)

Agenda

- Workgroup Co-Chair and Member Introductions
- Workgroup Logistics
- Committee Charge/Goals
- Background and Context
- Big Data Issues, Challenges and Opportunities
- Other Action Items (e.g., Workgroup Homework)
- 5 Minute Public Comment Period
- Adjourn

Big Data WG Members

| NAME	AFFILIATION
WORKGROUP CHAIRS	
Roger Little, PhD	NIDA
Massoud Vahabzadeh, PhD	NIDA
EXTRAMURAL WORKGROUP MEMBERS	
Christopher Chute, MD, DrPH	Johns Hopkins University
Michael Neale, PhD	Virginia Commonwealth University
Eric Nestler, MD, PhD	The Mount Sinai Hospital
Michael Milham , MD, PhD	Child Mind Institute
Arthur Toga, PhD	University of Southern California
Maryanne Martone, PhD	University of California at San Diego
NIH STAFF	
Philip Bourne, PhD	NIH Associate Director for Data Science
Maureen Boyle, PhD	NIDA
Ericka Boone, PhD	NIDA
Udi Ghitza, PhD	NIDA
Steve Gust, PhD	NIDA
Vani Pariyadath, PhD	NIDA
Tom Radman, PhD	NIDA
Joni Rutter, PhD	NIDA
Tisha Wiley, PhD	NIDA

Logistics

- Workgroup members:
  - Please dial in through the phone instead of using your computer speakers to improve the quality of the audio.
  - We will mute participants as necessary to control noise. Please unmute to speak.
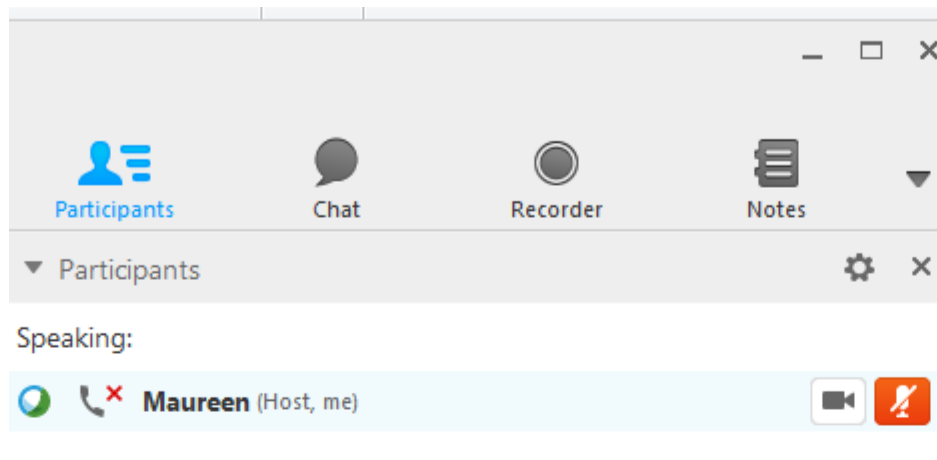
Logistics

- Non-workgroup members should remain muted until the public comment period

  - If you have a comment or question before then please feel free to enter it into the chat box

- The webinar will be recorded

- There is a note taker on the call and summaries will be posed on the website: http://www.drugabuse.gov/about-nida/strategic-plan
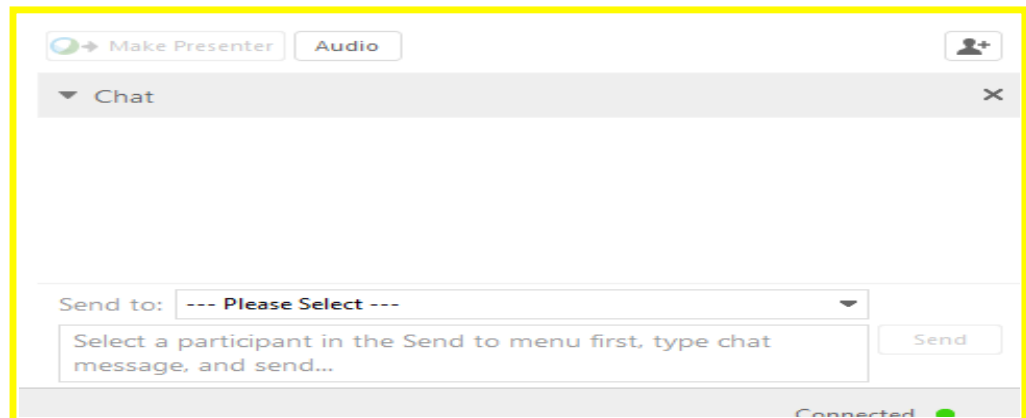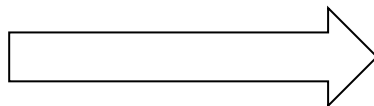
NIDA Strategic Planning

- RFI released in December to solicit feedback from the field on NIDA's draft strategic priorities:
  - **Basic Neuroscience**: Improve our understanding of the basic science of drug use, addiction, vulnerability to addiction, and recovery
  - **Clinical and Translational Science**: Support the development of new and better interventions and treatments that incorporate the diverse needs of individuals with Substance Use Disorders (SUDs)
  - **Public Health**: Increase the public health impact of NIDA research and programs
  - **Science Infrastructure**: Enhance the national research infrastructure to support advancements in science

- **Comment period closed January 30th**
  http://grants.nih.gov/grants/guide/notice-files/NOT-DA-15-005.html

Updating the NIDA Strategic Plan

- **Next steps:**
  - Bold Goals Challenge: Will award up to $10k in prizes for top ideas
  - Priority Area Workgroups will be formed to gather input from internal and external experts on cross divisional topics to develop strategic priorities for:
    - Big Data
    - Gene x Environment x Development interactions
    - Complex patients (multiple comorbidities)
  - Division strategic plans currently being developed

NIDA Strategic Planning Timeline

- RFI – Closed Jan 30, 2015
  - Review comments, by Mar 6, 2015
- Priority Area Workgroups
  - February through July
- Bold Goals Challenge
  - Winner selection, by August
- Draft Strategic Plan out for public comment
  - Summer 2015
- Final Strategic Plan
  - Fall 2015

Workgroup Charge

- To develop recommendations on the best approach for NIDA to utilize Big Data to advance strategic priorities including data sharing/access, analysis, visualization, reproducibility, negative data resource

- <u>Deliverable:</u> 3-5 page summary of recommendations on leveraging 'Big Data' in the next 5 years

- Completion date: **by Friday June 26th**

Workgroup Charge

- The workgroup should also address these cross cutting themes as appropriate
  - Training needs (training of clinicians common theme in RFI comments)
  - Addressing sex and gender issues
  - How to leverage technology advances
  - Leveraging innovations from other fields

Background and Context

- NIH Big Data to Knowledge (BD2K) http://datascience.nih.gov/ need to anticipate/exploit it for NIDA research community and other stakeholders

- The NIH plan for increasing data sharing http://grants.nih.gov/grants/NIH-Public-Access-Plan.pdf

- Opportunities for discovery, validation, increased analytical power

- Transparency and negative data repository

- Electronic medical records, efforts to create common data elements (in multiple domains)

- NIDA Big Data-related Projects and FOAs

Big Data Issues

- Capture, data dictionaries, ontologies, common data elements

- Storage: Cloud, centralized, decentralized, discoverability

- File Formats: unstructured data, preprocessing, metadata

- Data Curation (who does this; commercial service?)

- Transfer, sharing, security, privacy

- Visualization, analysis tools, machine learning

Big Data Challenges and Opportunities

- What are the challenges and opportunities? Prioritize.

- What are potential new areas of research? Prioritize.

- What is/are the impact areas unique to NIDA research? Addictome.org

- What are the training needs?

- To take advantage of the new opportunities and areas that will be created by big data research, what should NIDA do?

NIDA/DBNBR Awards
by BD2K Topic Area
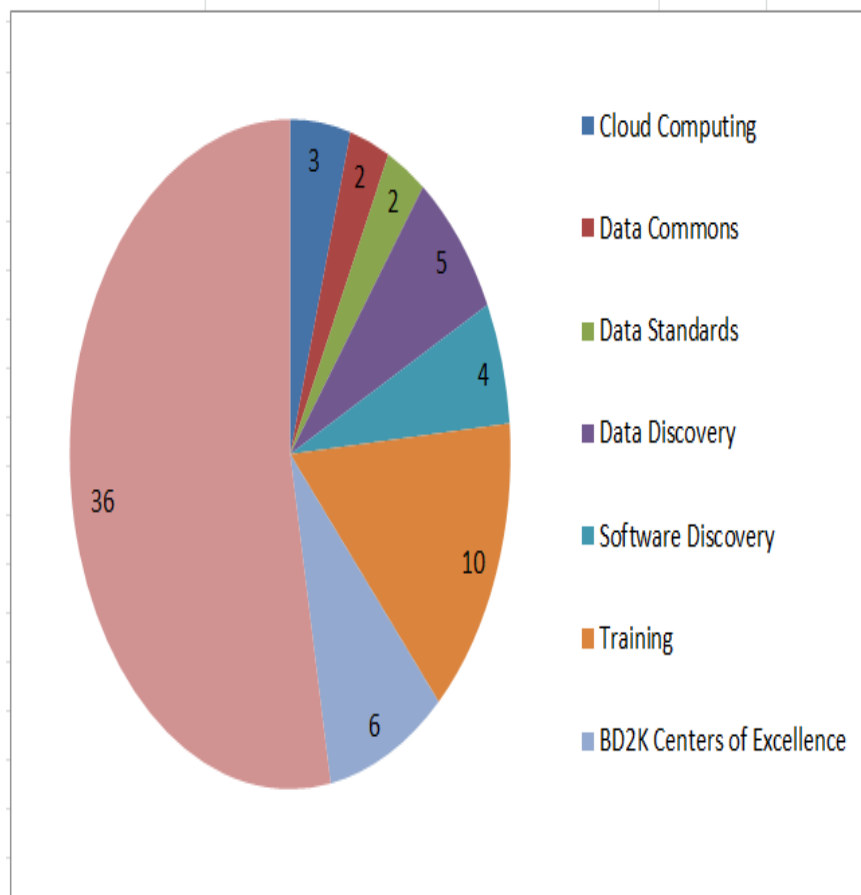
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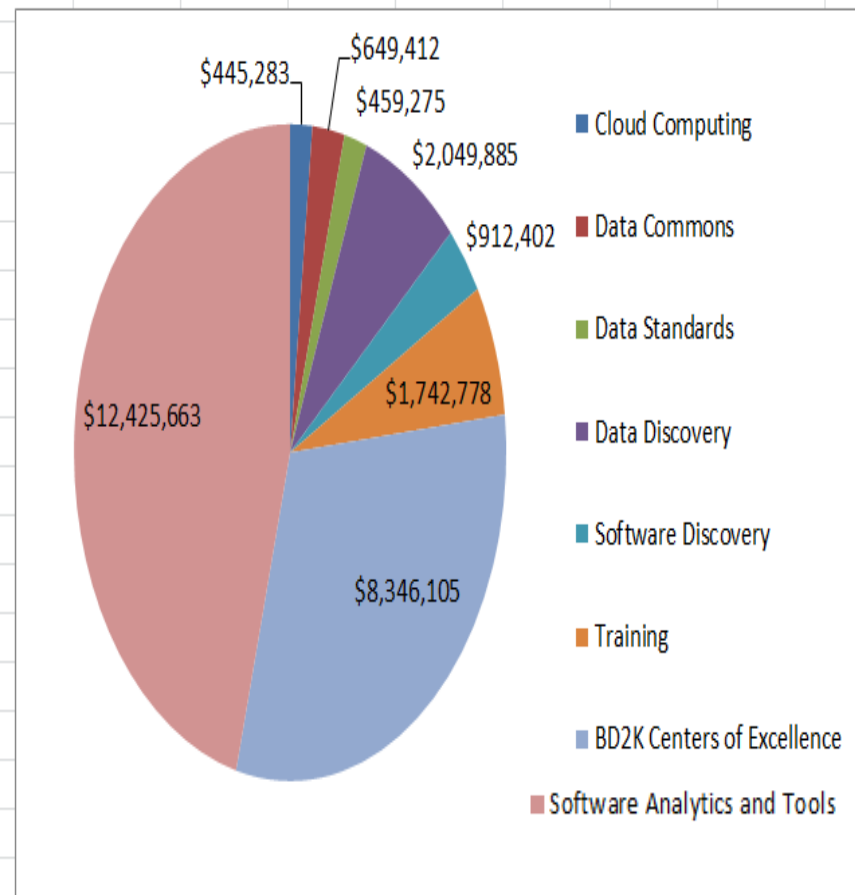
(Total Funding*)

*NOTE: All projects and dollar values are for internal analysis purposes only. Numbers are not final and are not subject to FOIA regulations

NIH BD2K FOAs

Analysis Methods and Software

Title	Number	Opening Date	Closing Date
Big Data to Knowledge (BD2K) Advancing Biomedical Science Using Crowdsourcing and Interactive Digital Media (UH2)	RFA-CA-15-006	05/03/2015	06/30/2015
Early Stage Development of Technologies in Biomedical Computing, Informatics, an Big Data Science (R01)	PA-14-155	05/02/2014	05/08/2017
Extended Development, Hardening and Dissemination of Technologies in Biomedical Computing, Informatics and Big Data Science (R01	PA-14-156	05/05/2014	05/08/2017
Early Stage Development of Technologies in Biomedical Computing, Informatics, an Big Data Science (R43/R44)	PA-14-154	07/05/2014	05/08/2017
Early Stage Development of Technologies in Biomedical Computing, Informatics, an Big Data Science (R41/R42)	PA-14-157	07/05/2014	05/08/2017

Wrap Up

- Other Action Items
  - Workgroup Homework
  - Other Items/Questions

- 5 Minute Public Comment Period

- Adjourn

*Next Meeting – 2:00-3:00pm, Wednesday, April 22, 2015